Rejections Under 35 U.S.C. §112, Second Paragraph

Claim 13 was rejected under 35 U.S.C. §112 second paragraph as allegedly indefinite. This rejection is respectfully traversed, particularly as applied to amended claim 13.

The Office Action says that claim 13 lacks antecedent basis for "the immobilized polynucleotide." Amended claim 13 depends from claim 10, which recites an immobilized polynucleotide. Consequently, the requisite antecedent basis is provided. Withdrawal of the rejection is respectfully requested.

CONCLUSION

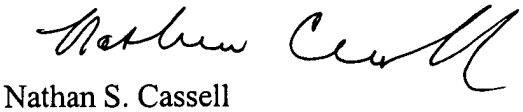
Attached is a marked-up version of the changes made to the specification and claims by the current amendment. The attached page is captioned **"Version with markings to show changes made."**

For the Examiner's convenient reference, attached hereto is a reproduction of the claims presently under examination, captioned "**Claims presently under examination**."

In view of the foregoing, Applicants believe all claims now pending in this Application are in condition for allowance. The issuance of a formal Notice of Allowance at an early date is respectfully requested.

If the Examiner believes a telephone conference would expedite prosecution of this application, please telephone the undersigned at 650-326-2400.

Respectfully submitted,



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VERSION WITH MARKINGS TO SHOW CHANGES MADE

In the Specification:

The first paragraph of the application has been replaced with the following rewritten paragraph:

This application is filed as a §371 of International patent application no. PCT/US99/12336, filed June 3, 1999, and claims the benefit of United States provisional patent application serial no. 60/088,016, filed June 4, 1998. This application is related to, but does not claim priority on, United States patent application serial no. 09/047,910, filed March 25, 1998 (J. Boyed et al.) now U.S. patent no. 6,429,353.

In the Claims:

Claims 33-56 have been canceled.

Claim 13 has been amended as follows.

13. (Currently Amended) The method of claim 10 **[12]** wherein the immobilized polynucleotide is comprised within a polynucleotide array.

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CLAIMS PRESENTLY UNDER EXAMINATION

1. A method for use in the diagnosis of endometriosis in a subject comprising the steps of:

detecting a test amount of a prothymosin gene product in a sample from the subject; and

comparing the test amount with a normal amount of the prothymosin gene product in a control sample,

whereby a test amount above the normal amount provides a positive indication in the diagnosis of endometriosis.

2. The method of claim 1 wherein the sample comprises ectopic endometrial tissue, eutopic endometrial tissue, peritoneal fluid, blood, vaginal secretion or urine.

3. The method of claim 1 wherein the prothymosin gene product is prothymosin mRNA or cDNA.

4. The method of claim 3 wherein the step of detecting comprises the steps of:

contacting the prothymosin mRNA or cDNA with a polynucleotide of at least 7 to about 50 nucleotides in length that specifically hybridizes to the prothymosin mRNA or cDNA and

detecting hybridization between the polynucleotide and the mRNA or cDNA.

5. The method of claim 4 wherein the polynucleotide comprises DNA or RNA.

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6. The method of claim 4 wherein the polynucleotide comprises a nucleotide analog selected from the group consisting of phosphorothioates, phosphoramidates, methyl phosphonates, chiral-methyl phosphonates, 2-O-methyl ribonucleotides, and peptide-nucleic acids.

7. The method of claim 4 wherein the polynucleotide comprises a detectable moiety, and the step of detecting hybridization comprises detecting the moiety.

8. The method of claim 4 wherein the polynucleotide is a primer and the step of detecting hybridization comprises:

initiating reverse transcription of prothymosin mRNA with the primer, and detecting a prothymosin mRNA reverse transcript;

whereby detection of the reverse transcript indicates that the polynucleotide has specifically hybridized to prothymosin mRNA.

9. The method of claim 4 wherein the prothymosin mRNA or cDNA is immobilized and the step of contacting comprises contacting the immobilized mRNA or cDNA with the polynucleotide.

10. The method of claim 4 wherein the polynucleotide is immobilized and the step of contacting comprises contacting the immobilized polynucleotide with the prothymosin mRNA or cDNA.

11. The method of claim 7 wherein the detectable moiety is a fluorescent label, a radioactive label, an enzymatic label, a biotinyl group, or an epitope recognized by a secondary reporter.

12. The method of claim 9 wherein the biological sample is a fixed tissue sample and the step of contacting comprises contacting the polynucleotide with the mRNA or cDNA *in situ* on the fixed tissue sample.

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13. (Currently Amended) The method of claim 10 wherein the immobilized polynucleotide is comprised within a polynucleotide array.

14. The method of claim 3 wherein the step of detecting comprises the steps of:

amplifying the prothymosin mRNA or cDNA to produce an amplification product and

detecting the amplification product.

15. The method of claim 14 wherein the step of detecting the amplification product comprises:

contacting the amplification product with a polynucleotide of at least 7 to about 50 nucleotides in length that specifically hybridizes to the amplification product, and

detecting hybridization between the polynucleotide and the amplification product.

16. The method of claim 14 wherein the step of detecting the amplification product comprises determining the nucleotide sequence of the amplification product.

17. The method of claim 14 wherein the step of detecting the amplification product comprises determining the mass of the amplification product.

18. The method of claim 15 wherein the polynucleotide comprises DNA or RNA.

19. The method of claim 15 wherein the polynucleotide comprises a nucleotide analog selected from the group consisting of phosphorothioates, phosphoramidates, methyl phosphonates, chiral-methyl phosphonates, 2-O-methyl ribonucleotides, and peptide-nucleic acids.

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20. The method of claim 15 wherein the polynucleotide comprises a detectable moiety, and the step of detecting hybridization comprises detecting the moiety.

21. The method of claim 20 wherein the detectable moiety is a fluorescent label, a radioactive label, an enzymatic label, a biotinyl group, or an epitope recognized by a secondary reporter.

22. The method of claim 1 wherein the prothymosin gene product is prothymosin polypeptide.

23. The method of claim 22 wherein the step of detecting comprises detecting prothymosin polypeptide by immunoassay.

24. The method of claim 22 wherein the step of detecting comprises contacting the sample with an affinity agent that binds to prothymosin polypeptide and detecting binding between the affinity agent and the prothymosin polypeptide.

25. The method of claim 22 wherein the step of detecting comprises detecting an analyte in the sample having the mass of prothymosin polypeptide.

26. The method of claim 23 wherein the immunoassay is non-competitive immunoassay.

27. The method of claim 23 wherein the immunoassay is competitive immunoassay.

28. The method of claim 23 wherein the immunoassay comprises detecting binding between the prothymosin polypeptide and an antibody comprising a detectable moiety selected from the group consisting of a fluorescent label, a radioactive label, an enzymatic label, a biotinyl group, and an epitope recognized by a secondary reporter.

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29. The method of claim 24 wherein the step of detecting binding comprises detecting bound prothymosin polypeptide by mass spectrometry.

30. The method of claim 26 wherein the non-competitive immunoassay comprises the steps of:

capturing the prothymosin polypeptide from the sample on a solid phase with a first antibody specific for prothymosin polypeptide; and

detecting capture of the prothymosin polypeptide by contacting the solid phase with a second antibody specific for prothymosin polypeptide and detecting binding between the second antibody and prothymosin polypeptide.

31. The method of claim 26 wherein the non-competitive immunoassay comprises the steps of:

binding the prothymosin polypeptide from the sample to a solid phase; and

detecting the prothymosin polypeptide by contacting the solid phase with an antibody specific for prothymosin polypeptide and detecting binding between the antibody and prothymosin polypeptide.

32. A method for use in the monitoring the progress of endometriosis in a subject comprising the steps of:

detecting a first test amount of a prothymosin gene product in a sample from the subject at a first time;

detecting a second test amount of the prothymosin gene product in a sample from the subject at a second, later time; and

comparing the first test amount with the second test amount,

whereby an increase in the amount between the first time and the second time indicates progression of endometriosis and a decrease in the amount between the first time and the second time indicates remission of endometriosis.

33-56. (Currently Canceled)

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